

Appl. No. 10/698,209  
Amdt. dated November 14, 2005  
Reply to Office Action of July 26, 2005

Amendments to the Drawings

Amend the drawings as follows:

In Fig. 4a, replace numeral "404e" with --404a--.

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**REMARKS/ARGUMENTS**

Claims 1, 2, 6, 7, 9, 10, 13, 14 and 26 -32 are in the application for consideration. Reconsideration of the application is requested in view of the amendments made in the claims and the statements appearing below herein.

1. The specification has been amended by updating the status of two co-pending applications referred to in paragraph [001] and further identifying another application referred to in that paragraph.

In addition, that status of a commonly owned application referred to in paragraph [037] has been updated.

2. Fig. 4A has been corrected by inserting "404a" for "404e". The corrected drawing is now consistent with the text in paragraph [055].

3. Claims 1 - 6 and 9 - 19 have been rejected under 35 U.S.C. § 102(b) as being anticipated by United States Patent Application Publication No. US 2002/0043164 A1 ("Kajiwara et al."). In support of the rejection the examiner has asserted that the reference teaches each and every limitation of the subject matter recited in

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these claims and has referred to paragraphs [0116] to [0125] and Figs. 11 through 14 thereof.

In view of the remarks made with respect to claims 7 and 8 on pages 4 - 6 of the Office Action, it would appear that the examiner intended to include these claims in the rejection.

The subject matter of Claim 1, as amended, and claims 2 and 6 which are dependent thereupon, are not taught or suggested by Kajiwara et al. The method recited in amended Claim 1 recites the use of a plurality of sub-patterns that are not mentioned in paragraphs [0116]-[0125] of the reference. However, for the purpose of comparison and discussion, the four pattern sets in Fig. 12 of Kajiwara et al. will be construed as though they represent a plurality of sub-patterns.

Amended claim 1 also recites the use of a "second pattern comprising a plurality of lines running parallel to a second axis of the image and a plurality of shapes abutting the plurality of lines." These patterns are illustrated in Fig. 4A of the present application and are distinctly different from the pattern sets of Fig. 12 of Kajiwara et al. The second pattern utilized according to the method of applicant allows the registration to be corrected in two directions, namely

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down-web and cross-web, whereas Kajiwara et al. does not teach or in any way suggest two-dimensional registration of the images.

The color-image forming apparatus of Kajiwara et al., as shown in Fig. 11, functions to register the images formed in a tandem printer for down-web variations in the transfer belt by the use of a set of line patterns as illustrated in Figs. 12 and 27. The apparatus functions as described in paragraphs [0116] through [0125]. The present application teaches and claims how to register the images formed in a tandem printer for both down-web and cross-web variations in the receiver, e.g., 110 of Fig. 1. This is illustrated by the patterns in Fig. 4A and noted in the flow diagrams in Figs. 2, 5, 6, 8, and 9.

Claim 7 has been amended to include the subject matter originally present in claim 8 (now canceled) and recites a method for use in a tandem printer which includes "a first print head for printing at a first resolution and a second print head for printing at a second resolution that differs from the first resolution." There is no mention in paragraphs [0116] through [0125] of the two heads operating at different resolutions nor the solution to the issue of registering heads printing at different pitches. The problem of determining the registration error where the heads are

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printing at differing resolution is not taught by Kajiwara et al. In addition, claim 7, as amended, also recites the second pattern that differs from the pattern sets of Fig. 12 of Kajiwara et al.

Amended claim 9, which recites a printer and incorporates the subject matter recited in original claims 11 and 12, and claim 10, which is dependent on claim 9, recite the patterns illustrated in Fig. 4A that are different from those described in Fig. 12 of Kajiwara et al. Claim 13, which is also dependent on claim 9 recites multi-resolution heads which, as described above, are not taught or suggested by Kajiwara et al.

Claims 14 - 19 are directed to data structures which are created by the method and printer of the previous claims. Independent claims 14 and 19 recite two-dimensional data structures which are different than the data structures formed according to Kajiwara et al.

Reconsideration of this ground of rejection and withdrawal thereof are respectfully requested.

4. Claims 20 - 27 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Kajiwara et al. in view of EP 0 720 350 A2 ("Sawano").

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Applicant traverses this ground of rejection. The references, viewed together, do not teach or suggest the claimed subject matter within the meaning of Section 103.

Kajiwara et al. has been discussed extensively above. As acknowledged by the examiner this reference does not teach or suggest the subject matter of claim 20. The teaching of Sawano does not provide the disclosure which is lacking in the primary reference.

The examiner has cited Sawano as an example of a multi-resolution printer. The concept of multi-resolution printing to reduce color moiré in dot printing is a well-known technique in graphic arts. R.W.G Hunt in *The Reproduction of Colour*, Fountain Press, London, 1957, page 142 discusses the process of rotating the dot screens to avoid moiré patterns. In digital imaging with a line printing head of fixed resolution, this classic analog solution is not directly possible. Sawano discusses one solution.

Sawano teaches a method of creating screens to reduce color moiré but does not consider the issue of registering the pixels between different planes of the image. These moiré patterns occur even at registration errors of less than one pixel. The registration errors that both Kajiwara et al. and applicant are correcting can be many pixels. Registration errors of this

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magnitude are seen often in the color printing of a daily newspaper where entire color planes can be offset by a millimeter or more. Sawano does not complement Kajiwara et al. with respect to registering the multiple image planes of a tandem printer.

Sawano does not address the problem of registration errors of more than one pixel, but is solely concerned with color moiré that is a dot overlap issue at the pixel level. Sawano implicitly assumes that the initial pixels are placed perfectly on one another (see Fig. 2 and the accompanying discussion on page 19). Sawano registers the images on a sub-pixel level which leads to moiré. This reference deals only with the avoidance of moire patterns by varying the down-web registration of the various down-web color planes.

Further, Sawano prints in different resolution only in the down-web direction and not in both the down-web and cross-web directions as can be practiced by applicant.

Claim 20, which is drawn to a method, and claim 24, which is drawn to a printer, both are directed to multi-resolution printing. As pointed out previously Kajiwara et al. does not suggest multi-resolution printing and Sawano, although it does deal with multi-resolution printing, teaches a method of creating screens to reduce

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color moiré but does not consider the issue of registering the pixels between different planes of the image and does not complement Kajiwara et al. with respect to registering the multiple image planes of a tandem printer.

Reconsideration of this ground of rejection and withdrawal thereof are respectfully requested.

5. Claims 28 - 32 have been objected to as being dependent upon a rejected base claim. It should be noted that claims 28, directed to a method, and 31, directed to a printer, are independent claims with claims 29, 30 being dependent from the former and claim 32 now amended to be dependent from the latter.

Claims 28 - 30 recite a method which allows the registration of the images to be corrected in two dimensions, namely down-web and cross-web, as has been discussed extensively above. Claims 31 and 32 recite a printer for carrying out registration of the images in two directions.

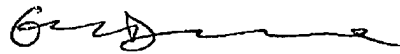
Claims 28 - 32 are patentably distinguishable over the references of record at least for the same reasons described above.



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In summary it has been shown that the claims remaining in the application are wholly novel and patentable over the references of record. Reconsideration of the application and allowance of the claims are respectfully solicited.

Respectfully submitted,



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Enclosures: Annotated Sheet Showing Change  
Replacement Sheet

Application No. 10/698,209  
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 Annotated Sheet Showing Changes

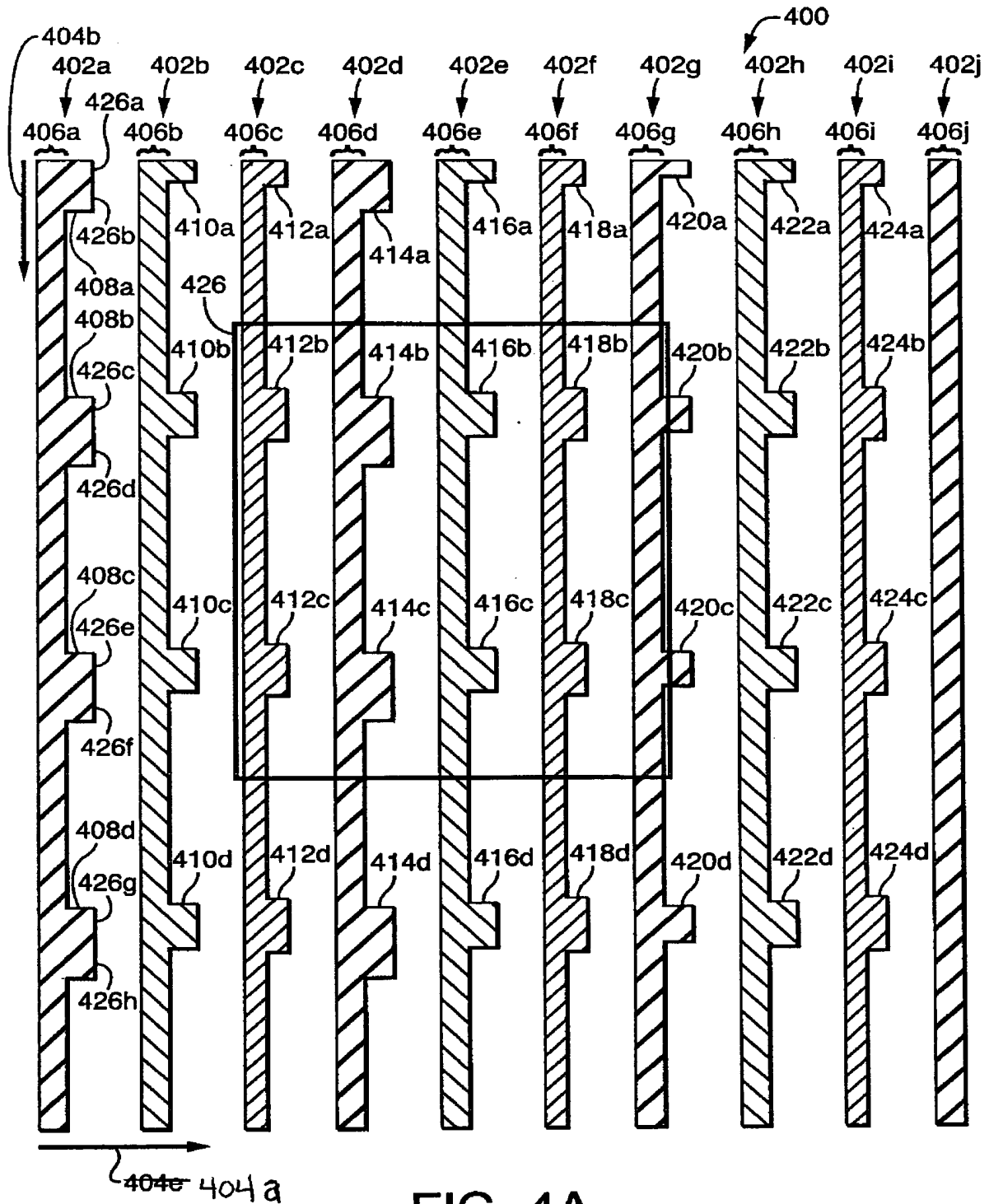


FIG. 4A